Chapter 1

It's Up to You

A problem is a need for change. A dream or goal you have is a problem. At this moment, you face several problems. This isn't at all unusual; it's the perpetual human condition. Life is an ongoing struggle. The purpose of solving problems and accomplishing legitimate dreams isn't to remove them, but to give meaning and direction to the struggle.

Purposes direct the search for solutions in positive ways. Harnessing the creative, productive energy behind this principle is a major goal of this book. By deciding to read this book, you've already taken a more purposeful approach to your problems. Even if you can't give specific reasons why, you sense that you can be more effective, can take more decisive, personal control of your circumstances.

If you feel this way, you share a sense of purpose with all the people who were involved in shaping this book from a few basic mental concepts to a finished product. You share this purpose with the book's authors, editors, typesetters, proofreaders, printers, bindery workers—the list goes on. If we all got together, we could probably agree on the main purpose of this book: to develop *your* personal effectiveness. You do possess the freedom to shape your life dealing with problems.

It might not be apparent that enhancing your personal ability to deal with problems will have noticeable effects on the world around you. Asserting, "It's up to you," might seem to be little more than empty cheerleading. After all, there aren't many things we do entirely by ourselves. Most of our problems involve some group action, whether at our jobs, with our families and friends, at school—wherever. Ultimately, for almost any type of problem, some organization seems to be in control.

Although dealing with, or within, an organization can be overwhelming, it's not just cheerleading to say that you can make a difference. When you think a bit about group dynamics—the ways people interact with one another—you can see that organizations often—indeed, typically—have trouble approaching problems. At the first sign of a problem, you, as an individual, are likely to be far more effective than the assembled resources of Mitsubishi, General Motors, or any other organization, large or small. The reason is simple: Organization only becomes effective *after, not before*, the purposes of working on a problem are identified.

Think about it. What is the purpose of an organization? Organizations are just groups of individuals whose efforts are structured, through certain relationships, to tackle big jobs. Organization is needed to carry out, to implement, tasks that are too big for individuals.

The strongest man in the world could not build a skyscraper by himself, but one person, unassisted, could define the purposes and conceive of the design for a skyscraper. Individual human brainpower is the world's most valuable resource. The brainpower of individuals drives all organizational effort.

Initially, before a plan of action has been devised, a large group of people cannot approach a problem. Individuals have to do that. If you have a stake, or concern, in a particular problem, *you* have to take hold of it.

Again, an organization, as a collective body, can't approach a problem. Individuals have to focus the attention of the group effort. An extension of this concept is that in group efforts, it takes an individual to help organize the group in defining the *purposes* of working on a particular problem.

As basic as this idea is, it's amazing how many people—including influential corporate managers and public officials—don't seem to appreciate its implications. As individuals, we can think of countless reasons not to take action personally. How many times have you read that a committee has been formed to study this or that crisis? Why is it that committees often end up doing little or nothing?

The shortcomings of the conventional committee approach became apparent when a task force of federal and state government officials—including hundreds of experts, professionals, and bureaucrats—and industry and environmental groups attempted to converge on the problem of the gypsy moth.

Gypsy moths are insects that threaten to eat their way into the history books by denuding most of the trees in North America. This problem has been lurking around for more than a hundred years, actually since the creatures were imported to Massachusetts from France in 1869.

Gradually at first, this pest, which had few predators in the area, spread to twelve states in the Northeast. Some have been found as far away as Florida, Wisconsin, and California.

Between 1970 and 1976, agricultural experts estimated that the larvae of the gypsy moth consumed one to two million acres of vegetation per year. If left unchecked, hordes of them could gobble up a large portion of the country's forests, woodlots, and suburban greenery.

In 1973, the U.S. Congress finally appreciated the potential anger of millions of taxpayers suddenly deprived of their shade trees. The nation's representatives put pressure on the Department of Agriculture (USDA) to do something before the ungreening of America reached crisis proportions. This encouragement was backed up with about $50 million in public funds to cover an in-depth, five-year program.

In an understandable flurry of activity, groups within USDA started gathering data. They studied the characteristics and behavior of the insect, predicted its spread and impact, identified alternative methods of control, and evaluated the potential damage to the environment that these control measures might cause.

Several years later, the department had amassed huge amounts of information, and groups within USDA had become expert in various aspects of the problem. State governments, industry, and environmental groups had also joined the effort.

But factions had formed within the department and the various agencies involved. These factions each had different assessments of the problem; and, in some cases, the disagreements had festered to the point of outright antagonism. Since each faction had become defensive about its position and role in solving the problem, a deadlock existed.

No one had the faintest notion of how to coordinate the participants in order to proceed further. Taking action would mean coordinating many organizations at the federal, state, and private levels. Consultants had submitted reports on several proposed pest-management systems, but each faction objected strongly to different report recommendations. Since no agreement could be reached on a plan of action, the reports, representing years of effort, were shelved. Meanwhile, the little moths continued to chomp, chomp, chomp their way past the Appalachians.

At this point, one of the more courageous participants put in a call to Nadler, who was then at the University of Wisconsin at Madison.

"Gerry," the caller said, "we've been working on this thing for three and a half years. We've got a stack of reports. We can tell you about the biology of the gypsy moth. We can tell you all about defoliation levels. We can tell you about the impact on the social scene when the oak trees are stripped bare. But we don't know anything about how to put together a national gypsy moth pest management system. What do you think we should do?"

At least, Nadler's response was truthful: "I haven't the slightest idea."

Perhaps what the caller expected was something like: "Let's get the Army and convert a bunch of flamethrowers into spray guns and blast 'em right out of the ecosystem!" After all, consultants are supposed to see those obvious answers that have been staring others in the face all along.

Nadler does admit to having a healthy, perhaps even considerable, ego. It's a thrill to get a call from Washington asking you to come up with a solution that millions of dollars and

thousands of staff-hours have failed to produce. It would be tempting to toss out an answer, any answer, to let them know that, this time, they've come to the guy who knows what's what.

Well, he'd been preaching to future industrial engineers and urban/regional planners in his university classes that they should always start a project by questioning the purposes of working on it. Didn't he have the courage of his convictions? He swallowed hard and said: "Maybe what we need first is a project to plan the project."

It certainly didn't sound like an impressive, expert response. In fact, it sounded rather evasive. The real effect, though, was to defuse an explosive situation. Nadler felt he had no business trying to out-expert people who had been studying the problem for years. Instead, he shifted attention from the problem of the gypsy moths to the problem of organizing the group to combat them.

The USDA's immediate problem, it turned out, was not the gypsy moth, but the disagreement among the people involved. The organization was deadlocked because of differences in the biases and perceptions of individuals. Nadler suspected that, though these people disagreed about details of the project, they would have much less trouble reaching a consensus about what the project was supposed to achieve.

He suggested that a starting point would be to convene representatives of the concerned groups and get them to focus not on the details of solving the pest problem, but only on the purposes of working on the problem. So, in July 1977, Nadler and his colleagues from Madison led a group of eighteen key people in a meeting to plan not the pest management project itself, but a *system for planning the project.*

Disagreements were set aside temporarily as the group thought about the purposes of a project just for planning the larger project. On this subject, there were relatively few existing biases and differences. The group could think constructively about who would be involved in the planning effort, how much it might cost, and how long it would

take. After only one day of discussion, the group had selected a planning committee and established a budget and schedule.

Several months later, the short-range project plan was carried out—a general meeting was held to begin the planning of the larger pest management project. In attendance were twenty-two people representing federal and state agencies, private industry, and university research groups. Each participant came equipped with what the pop psychologists call "negative tapes"—complaints, defenses, and reasons for not participating.

It was apparent that they all wondered who these hotshots from Wisconsin were: "Who are they to tell us what to do?"

The task force participants continued to harbor all kinds of negative feelings toward each other: "Who are the feds to order the states around? Why do we need these peddlers who just want to push their own brands of chemicals? What does a university professor know about getting things done in the real world?"

As you might expect, the planning session was punctuated by heated arguments. The participants argued about levels of concentration of insecticide spray. They argued about timing mechanisms, biological cycles, and impacts on the ecosystem. But, each time bickering broke out, Nadler and his team steered the discussion toward the purposes of these decisions and measures. Attention turned to questions such as: What are we trying to accomplish with the spraying? What's the point of trying biological interventions? Why be concerned with environmental impacts?

On these points, there was much less argument. Discussing purposes was relatively easy to do: It threatened no one and turned attention away from points of controversy and toward common goals. In short: *People usually can agree about purposes.*

The task force planning group held a series of meetings. The first two or three sessions began with the usual bloodletting, as factions insisted on raising old arguments and reasserting their respective positions. At each meeting, though, the participants seemed to need this catharsis less and less. Purposes began to direct the problem-solving process.

At the first meeting, the group agreed on an overall purpose for the pest management program: Cope with gypsy moths at all levels of population. The group identified ways that the effectiveness of the program could be measured, and even outlined what an ideal pest management system would accomplish.

At the second meeting, discussion leaders noticed that some of the participants were quick to propose ways that the identified purposes could be carried out. They injected their own ideas about organizational structure and administration. These proposed details of solution just aggravated the old differences. The group was tending toward the political issues that had stalled the program in the first place.

To move the group in more constructive directions, the discussion leaders suggested concentrating on the functions—the planning purposes—of the proposals. The group was encouraged to reserve for later meetings the question of what person or agency would be responsible. Again, agreement on purposes was much easier, and a preliminary plan began to emerge. The group was able to rank the functions it had identified in order of priorities for planning.

By January 1978, the planning group had been able to define what the target, or end-product, system would do. The group was split into committees around each of the functions they'd identified in the planning meetings: operations planning, pest surveillance, environmental considerations, intervention, public communication, and so on.

In short: *Successful problem solvers use a target solution as an effective guide in developing details of what others consider breakthroughs.*

By this time, the group was working in a highly directed, coordinated way. While exploring the purposes of their work, they discovered their common interests. Essentially, they got into the habit of agreeing. At each point of agreement, positive

feelings helped motivate the group toward the next step. In this sense, they began to behave as a truly organized body, rather than as a diverse collection of individuals.

This isn't the end of the story, just the beginning. The important thing is that it was a good beginning—one that eventually produced an effective, nationwide pest management program. Coming into a confused and unfocused group effort, a few individuals helped it get organized by concentrating only on the *purposes* of solution, not on the problem itself. For the group, defining purposes and developing ideal solutions disclosed points of agreement, encouraged positive feelings, and created a sense of mission. Individuals within the group could see more clearly how they could contribute to a solution.

The idea of focusing on purposes and solutions-after-next isn't always popular, especially when a problem situation becomes urgent. If the members of a group feel that they're facing a crisis, there's a natural tendency to want to get on with it, to do something—anything—before it's too late. In this situation, someone who wants to talk about purposes and ideals can be seen at first as a troublemaker, someone who is standing in the way of progress.

At some time, you've probably been in a meeting that was called to deal with a crisis. The dynamics of the meeting might have been similar to those in the following story.

Not long ago, the tenants of an apartment building became alarmed about a number of break-ins that had been reported in their neighborhood. In one incident, a middle-aged man was killed with his own gun when he attempted to stop a burglar. Later that night, after the ambulance and the police had left, the tenants met to talk about what they could do to protect themselves.

At first, there was no real direction to the meeting. They took turns relating the facts that were known about the incident that night. Others related similar experiences, news items they'd read, close calls they'd had personally. Finally, somebody said, "Let's get on with this! What the hell are we gonna do?"

Of course, no one really knew. That's what they'd called the meeting for. Most of them came expecting to be told what to do. No one had any answers, but there were plenty of opinions:

- "We wouldn't be here, you know, if the police would just enforce the law."
- "Yeah, they let criminals off too easy. None of 'em pay."
- "I think the police are doing what they can."
- "You can call the cops, but you could die waiting for them to get here."
- "That's just because people call them every time a dog knocks over a trash can."
- "Call the cops. That's all we can do."
- "No. We can get together and police this building ourselves."
- "Look, I'm all for taking action; but I can't spare much time for this."
- "Some of us here never take part. The same people run the block party every year. What ever happened to pitching in?"
- "Me and my brother can fight 'em. We ain't afraid of anybody."
- "What would we do if we came across somebody dangerous? We can't carry guns."
- "It's drugs. They're all high on drugs."

And so on.

Most of the comments were negative; many were complaints. Most of the people were angry, and it was natural to want to blame someone. The remarks that suggested action seemed poorly thought out. A sense of frustration began to build.

Finally, a young woman blurted, "Just why are we here? This is a waste of time."

It was a hostile remark. The woman was genuinely fed up. The meeting seemed pointless. Other people, who felt

they were finally getting a chance to speak their minds, were offended. There was a stony silence from the group.

But the woman persisted, "I've heard a lot about what's wrong. I don't like it any more than you do. But nobody's told me why we're here."

To many in the group, the woman was just being obtuse. One man thought he'd put an end to her objections: "We're here to deal with criminals. It's about time."

The woman wouldn't give up. She genuinely questioned why she should be involved. Whether she knew it or not, she had taken the first step toward dealing effectively with the problem.

She lowered her voice and asked the belligerent man, "Do you really think that we can hope to deal with criminals?"

Someone else answered, "We're here to enforce the law!"

As far as the young woman was concerned, this wasn't an answer. "Can we enforce the law?" she asked.

The reply was, "The police are supposed to enforce the law."

From another corner of the room, a boy, probably not yet in his teens, offered, "We could help the police enforce the law."

The young woman looked hard at the boy. "Now *that* sounds like something we could work on."

The belligerent man confronted the young woman, as if, finding a purpose for the meeting, she now had responsibility for dealing with the problem.

"How can we help the police?" he asked.

At first, the woman's answer sounded as though she wanted to antagonize him. "I haven't the slightest idea," she said.

Then, she thought a moment, and continued: "Why don't we invite a police officer here? Let's ask him what kind of help they need." For the first time that night, she smiled a little. "If you want, I'll even make the call."

Not much later, the meeting broke up—after the tenants had agreed that they would meet again soon with a police officer. The purpose of their meeting, it turned out, had been to gain a purpose in working together. Eventually, they all agreed the purpose was to help the police enforce the law. Once that purpose was identified, the next step seemed obvious.

The young woman in this story didn't solve the problem. Quite naturally, and thinking perhaps only of her own busy schedule, she questioned why she should be involved in solving it at all. Instinctively, she turned the attention of the group to the *purpose* of the meeting. Members of the group resisted talking about purposes at first, but eventually realized that a purpose was needed. And it was something on which they could all agree.

The idea that purposes are areas of potential agreement points toward ways that individuals can be effective in group efforts. This is a major advantage of thinking about purposes, but it's not the main reason for starting that way. Even when you're working on a problem by yourself, focusing first on purposes can increase your chances of success.

In other words: *Defining the purposes of working on a problem assures that you will apply your efforts in areas where you can have the greatest impact.*

Thinking about the purposes for working on a problem prevents wasted effort. This approach guarantees that you're not going to be working on something that won't meet your needs. Further, finding the right purpose greatly increases your chances of discovering a breakthrough or an innovative solution.

Finding the right purpose to work on involves thinking about purposes at different levels. For any problem, there can be many purposes of solution.

Consider a relatively minor problem—finding a missing bicycle key. You buy a new, expensive bicycle. Since you've had the experience of having a bicycle stolen, you purchase a chain lock for securing the bicycle while it's unattended.

But a problem arises because you haven't made a habit of carrying the key with you, and sometimes you forget it. You

might say that your problem is to find a missing key. How could it be any more complicated than that?

Well, another, broader, purpose is found by asking, What's the *purpose* of finding the key? A purpose at this level might be to be able to use the bicycle. A series of continually larger purposes can be found by following this progression, asking the purpose of each purpose.

Another way of finding multiple purposes is to write down all the purposes you can think of, large and small. For the bicycle-key problem, you might come up with a list like this:

- Locate (missing) bicycle key.
- Secure the bicycle.
- Get to school/work.
- Have key available at all times.
- Use the bicycle.
- Get exercise.
- Keep track of key.
- Have transportation.

Notice that some of these purposes are broader than others. "Keep track of key" is a smaller purpose than "have transportation." These different purposes can be arranged as a progression from small to large, from immediate to long-range, from minor to major. This ranking, or ordering, of purposes is called a *purpose hierarchy*. The reason to think in terms of purpose hierarchies is to find the level at which your efforts will produce the most effective results. Ranking the purposes above from small to large produces a purpose hierarchy (see Figure 1-1).

One of the important differences among these levels of purposes has to do with the *number of ways* you can find for achieving them. If your purpose is "locate (missing) bicycle key," you might get a mental picture of searching through desk drawers. One of the problems of working at this level is that the purpose implies that the key will *always* be missing.

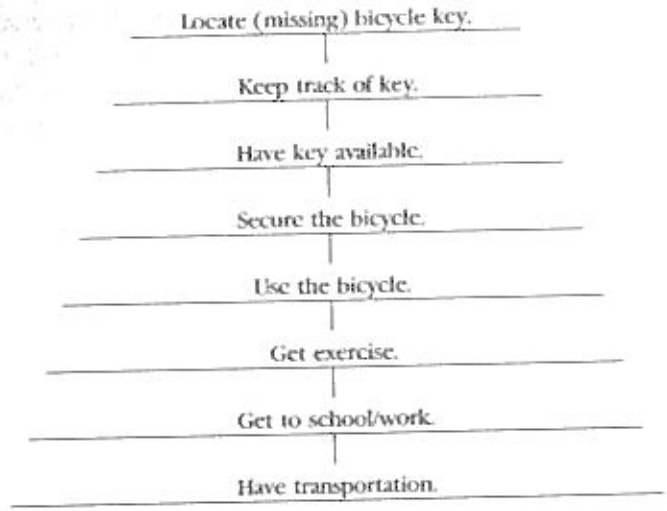

Figure 1-1. Purpose hierarchy for finding a missing bicycle key

Moving to a larger purpose level reveals a wider range of solutions. The purpose "have key available at all times" suggests designating specific storage locations for the key. "Secure the bicycle" suggests alternate ways of parking the bicycle that don't necessarily involve keys. Even larger purposes, such as "get exercise," suggest many other solutions besides riding the bicycle—swimming, jogging, playing tennis, and so on.

There is no single, correct purpose level for attacking this or any problem. But there is a level, usually larger than the first one, that addresses what really needs to be accomplished for a specific situation. This purpose level suggests a larger number of solution options, some of which may never have been considered in relation to the problem. These solutions represent *breakthroughs*.

Coming up with a purpose hierarchy for the bicycle-key problem probably isn't necessary. You wouldn't need to think

so methodically to come up with the idea of taking the bus instead. A more striking example might be called "The Case of the Slippery Packing Crates." Recently, a national manufacturer of consumer goods made some major changes in its distribution methods. These changes represented an innovation in the way companies in that industry conduct their business. But the company didn't happen on this breakthrough overnight. It all started when its distributors complained that the company's warehouses were sending them damaged goods.

Company management called in an efficiency expert to investigate the problem. The expert immediately set about gathering statistics on warehouse operations. She studied the nature of the damage, the perishability of the product, the frequency of shipping delays, as well as labor hours and all aspects of distribution costs.

From her study, she concluded that the damage was occurring on the loading docks. Symptoms of inefficiency in this area included damaged crates, chronic delays in shipment, and excessive overtime.

To this efficiency expert, dealing with the problem came down to "fixing what's wrong" with the loading operation. Most of the symptoms had to do with manual labor on the shipping dock. Therefore, a sensible, straightforward approach seemed to be finding a way to automate the loading of trucks.

This expert's approach is typical of the way many people set out to solve a problem. In effect, they make a checklist of what's wrong. Then they go about fixing each item on the list. When they have checked off all the items, they declare the problem solved.

A pitfall of this approach is that you can rapidly become immersed in the details of solving a problem without really understanding either the nature of the problem or the reasons for solving it. In short, focusing on what's wrong ignores the purposes of solution. (This approach also requires the often incorrect assumption that something has to be wrong with the present situation, as in locating a "missing" key.)

Although she never gave it much thought, the expert assumed the purpose of the loading dock was essentially this:

Find an efficient way to load trucks. With this starting point, the solution seemed obvious: Automate the loading docks.

The expert, then, came up with an ingenious way to install computer-controlled conveyors for loading trucks. The system she designed would cost about $60,000 per warehouse location, and she estimated that the resulting savings would pay for the new equipment in about eight months.

For major business investments, a very favorable payback period, or time to recoup an investment, is one year or less. A payback period of eight months would be seen as an exceptional opportunity. Feeling that she had an excellent solution, the expert eagerly presented her recommendations to the company's vice president of operations.

The cost of refitting each warehouse was relatively modest for such a large company. But it owned twenty-four warehouses. Thus, the total commitment for all their warehouses was a $1.44 million decision, one which also could displace hundreds of workers.

Since the company also had staff engineers, there had been little justification for calling in an outside expert. But there's a certain mystique about outside consultants—heavy-hitters. The vice president was inclined to respect the expert's recommendations; but, largely for the sake of good politics, he turned to the internal group for a second opinion.

The internal industrial engineering group assigned one of its younger staff members the job of verifying the expert's report. Since no one expected to match the favorable return offered by the expert's plan, the assignment was made almost randomly.

The staff engineer who was assigned to the project was a recent college graduate who had little experience with the company, much less in shipping and materials handling. Undaunted by the expert's opinion, however, the staff engineer took on the job enthusiastically. Here was a chance for visibility at the highest management levels, even if, in the end, he might rubber-stamp the expert's findings.

The young engineer had little to draw upon except for his previous course work in industrial planning and design.

These courses had emphasized purpose-directed problem solving. He therefore ignored most of the fact-finding in the expert's report and looked first at the purpose it implied.

To the staff engineer, the purpose "to load trucks" seemed to be one of the smaller, identifiable purposes. What is the purpose of loading trucks? That purpose, he reasoned, might be to consolidate shipments to dealers. And the purpose of consolidation might be to transport products to dealers. This line of reasoning proceeded through a number of larger purposes, up to the major purpose: Distribute company products to the marketplace.

Of the relatively few options available for loading trucks, it seemed that the expert had discovered one of the better ones. But was automating the loading docks the best way of *distributing the company's products to the marketplace?*

Once this larger purpose was identified, the range of choices was much broader. Still larger purposes, such as providing useful products to consumers, were probably too big to be addressed by the study. Yet finding alternatives at the distribution level might be productive.

You don't have to know much more about the young engineer's approach to see how his eventual conclusion grew directly from examining these larger purposes. When his study was completed, he asked to meet with the vice president.

When the day of the presentation finally came, the young man was confronted by a roomful of executives, including the top managers of distribution and engineering. After some cursory introductions, the vice president was blunt: "Well, do we go ahead and spend this money?"

The young engineer was on the spot for the first time in his career. The stakes were awfully high if he were wrong. He could barely get the words out: "No sir," he said.

Startled, some of the participants began murmuring among themselves. Well, the young man reasoned, at least I've won their attention.

The vice president wanted the bottom line, and quickly. "You've got another way to automate those docks?"

"No," the young man said.

Even as a child, he'd been taught always to speak up, to make all his mistakes in a loud, confident voice. Well, here goes, he thought.

Boldly, he declared, "I think you should sell the warehouses."

His plan, it turned out, was not exactly to sell all the warehouses. He proposed that the company maintain a few regional warehouses, each to be stocked by air shipment directly from the company's manufacturing plants. Eliminating local warehouses would simplify freight transfers so there would be fewer physical handling points for each shipment, more direct and rapid deliveries, and lower inventory levels in the field.

In response to these recommendations of a solution-after-next, and after considering many other alternatives, the company finally sold twenty of its warehouses, retaining four as regional shipping depots. To avoid firing anyone, alternative employment was found for workers who were displaced by the decision. Most of the company's inventory was maintained at plant locations, and stocking levels were reduced because of the increased efficiency of the new nationwide distribution system. The original problem of damaged goods was resolved by eliminating physical handling steps, not through automation.

The actual savings to the company was hundreds of millions of dollars per year, and the improvements in its effectiveness as an organization were immeasurable. Eventually, its competitors had to restructure along the same lines or face going out of business.

The lesson of this story lies not in the cleverness of the young engineer's solution, but in the opportunities that were opened up by the way he *approached* the project. If, instead, he had merely focused on better ways of loading trucks, he might never have considered alternative distribution methods.

The key to innovation in this case—and the engineer's real creativity—came in the initial phase of working on the

problem. In this critical phase, he found a purpose level—a position within a purpose hierarchy—to guide the rest of the work. This was the level that held the most promise for realizing a genuine breakthrough.

Finding the "right" purpose to work on doesn't guarantee finding a breakthrough. But it certainly helps the odds. Just knowing that you're working on an effective level, toward a worthwhile purpose, can also increase your confidence in approaching a problem.

With this confidence comes a genuine power of positive thinking. This power does not necessarily proceed from strength of will or exceptional motivation. It's just a natural consequence of knowing you're on the right track.

The examples in this chapter illustrate how *purposes* can direct your search toward truly useful solutions. You can also begin to see why organizations have trouble approaching problems. Initially, it takes an individual to encourage a group of people to agree first about *purposes*.

As purposes emerge, the group can organize itself around them. Arranging these purposes in a hierarchy, from smaller to larger, opens ranges of options, possibly including some real innovations. Working at larger levels of purpose increases the chances for breakthrough and maximizes effectiveness in dealing with the problem.

There are other lessons to be drawn from such success stories. These lessons represent the seven principles of Breakthrough Thinking that are advanced in this book.

1. The most successful problem solvers do not begin by trying to find out what has worked for someone else; they don't try to clone someone else's solution and impose it on a different situation. The first principle, then, is that *each problem should be regarded as unique*.
2. The second principle calls for being directed by *purposes*. Several studies show that the quality of such solutions is significantly better than the results from conventional approaches.
3. The third principle states that having an *ideal target solution* for achieving your purpose can lead to innovative solutions and help guide the development of the actual change you will make.
4. Another principle, the fourth, is that problems don't exist in isolation. Each problem is embedded within other problems, and a solution for one needs careful *specification in systems terms* to make it workable in relation to other problems and solutions.
5. In approaching a problem, a great deal of time and effort can be saved by not collecting a lot of information and by not reviewing all the studies that have already been done. The fifth principle asserts that, at the outset, it is actually better to *limit what you know* about a problem. People, even experts, are better able to cope with incomplete and soft data; successful people often prefer it to hard data.
6. As the pest management case demonstrates, people who may disagree can join in dealing with a problem effectively by focusing initially on purposes. Outstanding problem solvers are *diverse people who seek many different sources of information* in their problem-solving efforts. This is the basis of the sixth principle.
7. The seventh principle refutes the conventional wisdom that you shouldn't fix something if it isn't broken. For a solution to be effective, it has to be *maintained and upgraded continually* toward the target. Even the target needs to be updated regularly. You've got to keep improving a situation or thing to prevent it from breaking down due to entropy, the normal wear and tear of events.

Many people already use one or more of these principles. You may find that some of the principles describe intuitions or commonsense practices that you've already used successfully.

This shouldn't be surprising, since the principles of Breakthrough Thinking are generalizations about successful behavior. But without some means of *coordination*, applying a few of these principles is like entering your car in a race without tuning its engine.

Truly creative and productive power can come from applying *all the principles, consistently and in coordination*, to

every problem that you encounter. Focusing on all of them, rather than on finding out what's wrong, is often the critical difference.

Harnessing this power is something that you can do personally. It can be an astounding discovery that, initially, organizations can't tackle problems. The thinking power of an individual—you—is needed to galvanize a group to meaningful action. You can also use the power of Breakthrough Thinking to "go for it" on issues, dreams, and problems you face.

Increasing your personal effectiveness in group situations—on the job, at school, at home, in your community—is a major goal of this book. Applying the seven principles of Breakthrough Thinking in a deliberate approach to tie together thinking and accomplishment should help you accomplish the following:

- Maximize the effectiveness of your recommendations.
- Maximize the likelihood that your recommendations will be accepted and implemented.
- Maximize the effectiveness of the resources that are applied to the problem.

As background for presenting in detail the principles of Breakthrough Thinking, Chapters 2 and 3 will help you identify conventional attitudes, assumptions, and techniques that might prevent you from being truly effective. For example, you should get used to the idea that one problem leads inevitably to another. You will either drive, or be driven by, this engine of change.

Chapter 2

Problems Beget Problems (and That's Good)

The World Future Society not long ago listed "2,653 problems facing humanity." The list ranges from nuclear war to art forgeries.

The catalog was enlightening. But in relation to individuals and groups, rather than "humanity," it hardly scratched the surface. The gamut of problems faced by each individual is virtually infinite.

We tend to think of problems as rocks on an otherwise smooth pathway of life, but the fact is that they are the *rule* rather than the *exception*. That is because problems are not things, like monkey wrenches and graham crackers: *Problems are reflections of states of mind.*

A problem, in its simplest definition, is a condition or set of circumstances that a person or group *thinks* should be changed. Problems are the product of human dissatisfactions and aspirations, including the 2,653 "big" ones.

Because dissatisfactions and aspirations are the driving force of life, consequent problems are innumerable and endless. In solving one, we in effect step through a portal to a landscape that is altered, however minutely. And there another array of problems awaits.

The roots of problems in human dissatisfactions and aspirations are both *subjective* and *relative*. To a man who takes pride in his lawn, crabgrass may constitute a problem; his neighbor may not be bothered by crabgrass at all. But if the first man's house catches fire, the crabgrass instantly loses di-